

**REMARKS**

**I. Introduction**

In response to the pending Office Action, Applicants have amended claims to further clarify the scope of the present invention. No new matter is added in this amendment.

For the reasons set forth below, Applicants respectfully submit that all pending claims are patentable over the cited prior art.

**II. Rejection Of Claims 1-6 Under U.S.C. § 102/103**

Claims 1, 5 and 6 were rejected under 35 U.S.C. § 102(e) as being anticipated by or alternatively under 35 U.S.C. § 103 as being unpatentable over Usui et al. (USP No. 5,733,828) and claims 1, 2, 5 and 6 were rejected under 35 U.S.C. § 102(e) as being anticipated by or alternatively under 35 U.S.C. § 103 as being unpatentable over Sakoske et al. (USP No. 6,255,239). Furthermore, claims 1-6 were rejected over Hasegawa et al. (USP No. 6,778,355) in view of Yamamoto et al. (USP No. 6,503,858). Applicants respectfully submit that all of the cited references fail to anticipate or render obvious the pending claims for at least the following reasons.

With regard to the present invention, amended claims 1 and 4 both recite a Bismuth glass composition wherein the weight ratio of Al<sub>2</sub>O<sub>3</sub> to SiO<sub>2</sub> is 0.5 or less.

One feature of the present invention is that the weight ratio of Al<sub>2</sub>O<sub>3</sub> to SiO<sub>2</sub> of a bismuth glass composition is 0.5 or less. One advantage of this feature is that it allows stabilization of the glass and prevents the precipitation of crystal in the glass, thereby improving the gas tightness of the glass. For example, as can be seen in Table 18 on page 54 of the specification, Examples 128-130, which have an Al<sub>2</sub>O<sub>3</sub> to SiO<sub>2</sub> ratio of 0.5 or less, show superior stability to the Comparative Examples 131 and 132, which have a Al<sub>2</sub>O<sub>3</sub> to SiO<sub>2</sub> ratio of greater than 0.5.

In contrast to the present invention, Usui, Sakoske, Hasegawa and Yamamoto all fail to disclose the above cited limitation. Furthermore, the cited references are also silent with respect to the noted advantages obtained from the limitation.

Anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed, either expressly or inherently in a prior art reference, *Akzo N.V. v. U.S. Int'l Trade Commission*, 808 F.2d 1471 (Fed. Cir. 1986). Also, in order to establish a *prima facie* case of obviousness, each and every limitation must be disclosed or suggested by the combination of the prior art references (see, M.P.E.P. § 2143.03). At a minimum, neither Usui, Sakoske, Hasegawa nor Yamamoto disclose a Bismuth glass composition wherein the weight ratio of  $\text{Al}_2\text{O}_3$  to  $\text{SiO}_2$  is 0.5 or less. Therefore, as it is apparent from the foregoing that Usui, Sakoske, Hasegawa and Yamamoto, alone or in combination, fail to anticipate or render obvious claims 1 and 4 of the present invention, Applicants respectfully request that the § 102 and § 103 rejections of claim 1 and 4 be traversed.

**III. All Dependent Claims Are Allowable Because The  
Independent Claim From Which They Depend Is Allowable**

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claims 1 and 4 are patentable for the reasons set forth above, it is respectfully submitted that all pending dependent claims are also in condition for allowance.

IV. Conclusion

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication of which is respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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